

## TIME LIMITED WEAPON SYSTEM

### **Background of the Invention**

This invention relates to weapon systems, and more particularly, to weapon systems including timing apparatuses to disarm the weapon after a selected time has elapsed.

Industrialized countries often manufacture myriad weapons systems not only for their own military but also for export to other governments and even factions within other countries. One example is the United States whose balance of trade benefits from the sale of aircraft, missiles, and a wide variety of other armaments and munitions, along with associated hardware such as communications and navigational equipment and related systems. Experience has shown that these weapon systems can sometimes fall into the wrong hands or, with the passage of time, current allies become future enemies. For example, a United States Stinger missile provided to a former ally might one day be used against United States forces. A need, therefore, exists for a country and its armaments manufacturers to lessen the threat that its weapons will be used against it.

### **Summary of the Invention**

The weapon system, according to the invention, includes a weapon and timing apparatus adapted to disarm the weapon after a selected time has elapsed. As used herein, the term "weapon" is to be given its broadest interpretation and may include, but is not limited to, bombs, missiles, aircraft, torpedoes, land mines, sea mines, munitions, any hardware related thereto and any sophisticated components thereof.

In another aspect, the weapon system includes means for shortening or extending the selected time of the weapon either before or after the selected time has elapsed. It is preferred that the means for shortening or extending the selected time be remote from the weapon itself.

The present invention has obvious advantages over conventional weapon systems that are currently on the market. If a weapons purchaser becomes hostile, the country of origin and/or the manufacturer can remotely disarm the weapon even before the selected elapsed time has expired. Alternatively, the timing apparatus can be reset for an additional period of time when there is no apparent threat from the purchaser.

If such an invention were to be adopted by most industrialized nations, it would go far towards disarming the less industrialized rogue states, by enabling allies or signatories to a treaty to agree that they would disarm weapons which were going to be used against any of them.

## Brief Description of the Drawing

Figure 1 is a schematic illustration of a representative weapon system of the invention.

## Description of the Preferred Embodiment

With reference to Figure 1, a representative weapon such as a cruise missile 10 includes a timing device 12 that is programmed by a manufacturer to include a selected time period, for example, one year, two years, or three years during which the missile 10 may be operated. The selected time chosen will depend on the particular weapon system and the prevailing geo-political situation. The timer 12 may be any suitable timing apparatus. Preferably, the timing apparatus will be quartz-controlled and its time may be corrected, if desired, by the receipt of time-standard radio signals such as from a global positioning system (GPS) satellite to be discussed further below.

The timing device 12 is interconnected with the cruise missile 10 so that when the selected time period has elapsed, the cruise missile 10 becomes inoperative and its warhead(s) is/are disarmed. The interconnection between the timer 12 and the missile 10 is preferably protected by traditional encryption technology so that the owner of the missile 10 cannot override the timing device 12. If such an unauthorized attempt is made, the timing device will immediately render inoperative the missile 10 and disarm its warhead(s).

There will likely arise circumstances for which it is desirable to disable the weapon prior to the selected time or to extend the operational period for an additional selected time. With reference still to Figure 1, the defense establishment of a country or a manufacturer represented by the box 14 can send a signal, preferably encrypted, to the missile 10 to reprogram the timing device 12. As shown, the signal may be relayed by a satellite 16. For example, the satellite 16 might be one of the existing GPS satellites which provide substantially global coverage for the transmitted signal. An unused subcarrier on the GPS satellite 16 would be suitable.

In practice, the manufacturer 14 will program the timing device 12 for an appropriate period of time depending on the particular weapon system being sold and the purchaser. The weapon system will then be operable by the purchaser within that time period. If the time period elapses before the purchaser has used the weapon, and assuming there is no perceived threat to the country of origin, the whole timing device 12 could be replaced by the manufacturer or the original timing device 12 could be reprogrammed either manually or remotely as illustrated in the figure. If, however, circumstances were to change, the manufacturer could send a signal to disarm immediately the weapon system.

The cost and sophistication of the subject invention would vary with the lethality of the host weapon. For instance, the timing device for mines would be a relatively inexpensive and simple device which would be activated by arming the mine itself. Such a device could not be reset once activated and would, most likely, have only one time setting.

As stated earlier, it is contemplated that the present invention applies to any weapon system including auxiliary equipment such as communications and navigational gear and related systems.

It is believed that the invention has significant defense/foreign policy ramifications, and that our federal government might well assume control over the setting and resetting of the timing apparatuses.

It is recognized that modifications and variations of the invention disclosed herein will occur to those skilled in the art, and it is intended that all such modifications and variations be included within the scope of the appended claims.

What is claimed is: